

Abstract

Methods and products for upregulating cystic fibrosis transmembrane conductance regulators are provided, including methods and products for the treatment of *P. aeruginosa* infection. The products include polysaccharides that interact with the cystic fibrosis transmembrane conductance regulator (CFTR). The polysaccharide compositions of the invention may be administered to a subject in order to enhance the uptake of *P. aeruginosa* into the epithelial cells of the subject. The invention also encompasses compositions comprising a lipopolysaccharide-binding region of a CFTR linked to an anti-*Pseudomonas* drug and methods of use of such compositions. Compositions and methods for gene therapy are also disclosed. The compositions include polysaccharides that bind to CFTR coupled to a gene delivery vehicle.

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